Public Document No. 97

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

BOARD OF REGISTRATION IN OPTOMETRY

FOR THE

YEAR ENDING NOVEMBER 30, 1928

DIVISION OF REGISTRATION
DEPARTMENT OF CIVIL SERVICE AND REGISTRATION

PUBLICATION OF THIS DOCUMENT APPROVED BY THE COMMISSION ON ADMINISTRATION AND FINANCE

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REPORT

DEPARTMENT OF CIVIL SERVICE AND REGISTRATION.
BOARD OF REGISTRATION IN OPTOMETRY
STATE HOUSE, BOSTON, MASS., FEBRUARY 11, 1929.

TO WILLIAM F. CRAIG, *Director of Registration.*

SIR:—The Board of Registration in Optometry has the honor to submit to you its seventeenth annual report, as required by Section 67, Chapter 112 General Laws.

The Board has held during the year, two examinations; in June and November. The total number of candidates examined was 53. Of this number 13 passed and 40 failed.

The following written examination was given June 19, 20, 21, and 22, 1928:

ANATOMY

1. Which two of the three primary structures of the Ovum namely the Mesoderm, the entoderm and the ectoderm participate in the development of the eye in embryo? Name the structures of the eye formed from each.
2. Name two varieties of muscles so that the functional as well as the structural properties are indicated. Describe the cellular structure of each variety.
3. Locate in the brain (a) the lower visual center. (b) the higher visual centers.
4. Describe the rods and cones of the retina.

PHYSIOLOGY

1. How do different portions of the retina vary in their power to distinguish (a) color. (b) form?
2. Discuss the physiological functions of the canal of Schlemm, Hyoloid Canal, Hyoloid membrane.
3. Explain the functions of (a) convergence. (b) accommodation. Give the nervous mechanism of each.
4. What are the blind spots, macula lutea and forea centralis.

PATHOLOGY

1. Differentiate an anterior polar cataract and central opacity of the cornea.
2. Describe the opthalmoscopic appearance of fundus in the following conditions: Retinitis circinata, embolism of the central retinal artery; choked disc, and optic neuritis.
3. Describe appearance of acute iritis; give causes and symptoms.
4. Differentiate acute conjunctivitis and uveitis. Discuss symptoms.

June, 1928. HOWARD C. DOANE.

THEORETIC OPTICS

1. (a) What wave lengths limit the visible part of the spectrum? State in $\mu\,\mu$ and color.

(b) How are the rays designated beyond the long and short wave limits of the visible spectrum?

(c) Ordinary crown spectacle lenses absorb rays beyond what wave lengths?

2. What is the law of reflection and what would be the normal of a c c mirror?
3. Explain the refraction of divergent rays from a point of light thru a planoconvex cylinder. Illustrate by diagram.

4. What change takes place in the focal length of a thin biconvex lens when placed in turpentine?

5. Describe polorisation by (a) refraction; (b) by reflection.

6. Assuming that the cornea of the eye is a spherical refracting surface of 8 mm. radius and the aqueous humor index of refraction is 1.33. What will be the real distance of the pupil of the eye from the vertex of the cornea if the apparent distance is 3.04 mm.

Physiological Optics

1. What would be the effect on the retinal image if a biconvex lens is moved from a position in which the optical center of the lens coincides with that of the anterior focal point of the eye to a position nearer the eye?

2. What is the amplitude of accom. of a myope of 2 D whose near point is 8 cm. in front of his eye?

3. Explain why there is a varying acuity of form sense in different parts of the retina.

4. During the act of accommodation describe what changes take place in the posterior surface of the lens, according to Helmholtz theory of accommodation.

5. How does the focal length of the crystalline lens compare with that of a lens of the same external form; made of a homogeneous substance, of the same density and index of refraction as that of the nucleus of the crystalline lens?

6. Under what condition of illumination does the psychophysical Law of Fechner hold true? Explain reason for answer.

June, 1928 Walter I. Brown.

Theoretic Optometry

Answer ten questions only.

1. Differentiate between divergence excess and convergence insufficiency.

2. What is meant by sectional accommodation, how determined and corrected?

3. Why does a presbyope prefer to read while facing a bright light?

4. How would you take the amplitude of accommodation and range of vision in presbyopia by means of the cross cylinder test?

5. If an eye sees the vertical lines distinctly at first and in a few seconds the horizontal lines, what is the reason for this change and how overcome.

6. A person has supraduction of the right eye of 4° and 2° of the left eye. What phora would you suspect and how much?

7. How would you treat a case of strabismus.

8. What is meant by repression in refraction work?

9. Differentiate between correcting and corrective prisms.

10. If an ophthalmometer reading 44 D in the horizontal meridian and 42 D in the vertical, what information does this give relative to the refraction of the eye?

11. If an eye is overdeveloped 2/3 mm. and has 8D of accommodation, what is the range of vision?

12. Describe the stereoscopic treatment in developing the fusion faculty.

June, 1928. S. W. Baker.

Practical Optometry

1. Give in complete detail your method of procedure in making an examination of the eyes, and give your reasons for the order in which you use the various instruments and methods.

2. Discuss fully the direct and indirect methods of using the Ophthalmoscope explaining in detail the value of each in Optometric practice.

3. Patient 25 years of age, Bookkeeper, comes for examination: history, work blurs at times; requires for a correction + 2.00 D Sphere

o. u. Right eye adduction 24°, abduction 3°, subduction ½°, superduction 3°. Discuss your reasons for his trouble and give correction for constant use.

4. Secretary age 20, wearing O. D. — 4.75 = 1° out, O. S. — 450 = 1° out. History, constant headache, blurring of vision. Examination shows fundus normal. Dynamic skia at 16 in. O. D. — 3.75 O. S. — 3.25 subjective cross cyl at 20 ft. O. D. — 425 O. S. — 400 adduction 12 abduction 2° manifests 8° Eso, at 14 in. employing a 6° prism up over left eye with the dot and line chart. Discuss fully how you would handle the case and correction for constant use.

5. Housewife, age 37 years wearing — 200 o. u. History, frontal and occipital headaches, examination normal fundus. Dynamic at 14 in. O. D. — 2.00 O. S. — 1.00. Subjective cross cyl at 20 ft. O. D. — 2.75 O. S. — 1.75 adduction 14° abduction 3° manifests 8° Eso. at 14 in. employing a 6° prism up over left eye with dot and line chart. Discuss fully how you would handle this case with correction for constant use.

6. Discuss fully Static Skia. employing plain mirror at 16, 20 and 40 in. and write a prescription for each.

7. Discuss Dynamic Skia, employing plain mirror at 14 and 40 in. on patients 16 and 48 years of age, and give correction for constant use.

8. Student age 14 years wearing O. D. — 250 O. S. — 2.00 Examination subjective O. D. — 275 = — 50 cyl. × 180 O. S. — 150 = — 50 cyl × 180 maddox rod test at 20 ft. 4° Eso and 10° Right Hyper at 14 in. employing 6° up over left eye 4° Eso 20° base in and 6½ R. Hyper. cross cyl. at 14 in. O. D. — 1.75 O. S. — 1.00. Write a prescription for constant use and give in complete detail your reasons for same.

9. Student, age 18, anemic, nervous, eyes blur at near work. Dynamic Skia. at 16 in O. D. + 4.00 O. S. + 6.00 Subjective at 20 ft. employing chart and cross cyl O. D. + 2.00, O. S. + 4.00 adduction 10, abduction 3° manifests 6° Eso at 16 in using a 6° prism base up with dot and line chart. Discuss how you would handle this case and correction for constant use.

10. Patient 60 years of age, paper hanger, comes for examination; History, dizziness; working at 20 inches with plane mirror by the usual static method, it required a + 4.00 D Sphere to cause reversal at 16 inches: by the Dynamic method a + 6.75 D. Sphere. Right eye adduction 8° abduction 2° superduction 0, subduction 3° muscles of left eye normal. What would be your correction for constant use? Explain fully.

June, 1928 G. S. Houghton.

Practical Optics

1. (a) In surface grinding, using three grades of emery and then rouge, is there any difference in speed of machine in different operations?

(b) When edge-grinding, what effect would speeding up the stone have?

2. When can a lens be toric (a) and yet have both sides convex? (b) Give an example.

3. Would you decenter or surface-grind the following on a + 450 cyl ax 90?

(a) 1° prism, base down.

(b) 1° prism, base out.

4. The lenses of a pair of spectacles are in perfect position before the patients eyes, but the lower edge of bridge cuts the nose;

(a) State where and what directions the bends should be made to overcome this trouble, and still keep the lenses properly adjusted.

(b) Patient wearing eye-glasses, complains that eye lashes touch the left lens: Describe in detail the adjustment.

5. Transpose the following:

(a) + 225 cyl × 10 = + 75 cyl × 100

(b) — 125 cyl × 60 = + 175 cyl × 150

(c) + 275 sph = — 50 cyl × 90, 2° prism, base in.

6. What is the difference between cloth an pitch polishing?

(b) What effect would you have from constantly grinding + 6.00 curve lenses on the outer edge of surfacing tool?

7. With a P. D. of 60 mm. and 20 mm. taken up by the bridge, how can a lense 43 mm. long be given, and still be correctly adjusted?

8. (a) How is optical glass made?

(b) How are optical blanks made?

9. (a) What style of zylonite frame would you advise, to fit a very low flat nose?

(b) When would you advise a high bridge frame?

10. Which increase faster in dioptric power, the distance or reading, when a plus curve is ground:

(a) On the disc side of a fused bifocal?

(b) On the opposite side?

June, 1928 M. J. Fowler.

The examinations as in previous years have occupied four days, the first three being devoted to written examinations on theoretic, technical and practical subjects, while the fourth is devoted to practical demonstration of the use of instruments and methods used in the practice of optometry. In the quality and scope of the written examination, the Board has, during the year, maintained very high standards. The practical demonstration required of the applicant has been more comprehensive than in former years. The Board maintains that before issuing a certicate of registration an applicant must demonstrate a practical understanding of the methods, and proficiency in technique with the instruments used. The applicant is therefore required to make a complete routine examination of a subject's eyes, write a prescription, demonstrate his ability to properly adjust eyeglasses and spectacle frames, and to analyze and neutralize ophthalmic lenses.

All applicants are required to attain the grade of 70 percent as a passing mark in each subject. Those failing in two subjects only, are required to take those subjects again at a subsequent examination. Those failing in more than two subjects are required to take the entire examination over again.

The Board, with the efficient aid of the Department of Public Safety had investigated numerous reports of the violations of the optometry law. No prosecutions have been necessary, but several cases of questionable practice have been effectually stopped.

The Board respectfully asks that more commodious accommodations be provided for our records and files, the space now used being inadequate and congested.

In September, His Excellency, Governor Alvan T. Fuller reappointed Mr. Walter I. Brown of New Bedford for a term of five years.

At the annual meeting of the Board, Mr. Howard C. Doane of Boston, was re-elected chairman for the ensuing year, and Mr. George S. Houghton of Somerville was re-elected secretary for the ensuing year.

During the past year 13 persons have qualified for registration by examination. Seven certificates were revoked and seven optometrists died. There is now a total of 1,008 registered optometrists in Massachusetts.

Recommendation

The members of the Board feel that optometrists should be accorded the same protection as other professions dealing with the public health in the application of the law relative to the limitation of actions for malpractice, error or mistake. The law as it now stands does not apply to Optometrists. We therefore recommend an amendment to Sect. 4 of Chap. 260, G. L., as amended by Sect. 1 of Chap. 319 of the Acts of 1921, as outlined in the accompanying draft and duly submitted to the Secretary of State.

Section 1. Section four of chapter two hundred and sixty of the General Laws, as amended by section one of chapter three hundred and nineteen of the acts of nineteen hundred and twenty-one, is hereby further amended by inserting after the word "dentists" in the seventh line, the word:—optometrists,—so as to read as follows:—Section 4. Actions for assault and battery, false imprisonment, slander, actions against sheriffs, deputy sheriffs, constables or assignees in insolvency, for the taking or conversion of personal property, actions of tort for injuries to the person against counties, cities and towns and actions of contract or tort for malpractice, error or mistake against physicians, surgeons, dentists, optometrists, hospitals and sanitaria, shall be commenced only within two years next after cause of action accrues; and actions for libel shall be commenced only within one year next after the cause of action accrues.

Section 2. This act shall take effect upon its passage.

Financial Report

Receipts

Received from applicants for examination	$550.00
Received from re-examination fees	100.00
Received from renewal fees	1,866.00
Received for duplicate certificates	10.00
Fine	5.00
Total Receipts	$2,531.00

Expenditures

Cash paid for compensation for commissioners	$1,900.00	
Cash paid for travel expenses	248.78	
Cash paid for general office expense	453.90	
Total Expenses		$2,602.68

Respectfully submitted,

HOWARD C. DOANE, *Chairman*
GEO. S. HOUGHTON, *Secretary.*
SAMUEL W. BAKER,
MATTHEW J. FOWLER,
WALTER IRVING BROWN.